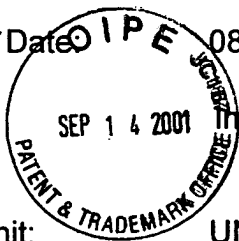


IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

APPLICANT: PACE MICRO TECHNOLOGY PLC)
Application No.: 09/921,849)
Filing Date: 08/03/01)
Title: Improvements to Electronic Program Guide)
Art Unit: UNKNOWN)



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Director for Patents and Trademarks
Washington, D.C. 20231

Dear Sir:

Enclosed herewith is a certified copy of British Patent Application No. 0019318.5
for which the above-identified patent application claims priority from.


If, for any reason, this priority document is not acceptable, please inform the
undersigned as soon as possible.

Respectfully Submitted

HEAD, JOHNSON & KACHIGIAN

Date: 09/14/01

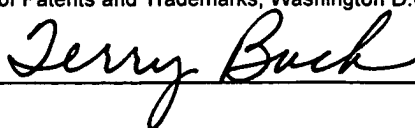
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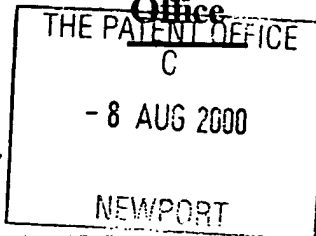
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W. Evans

Dated

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1/77



08AUG00 E558858-9 D00346
P01/7700 0.00-0019318.5
The Patent Office

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(See the notes on the back of this form. You can also get an explanatory leaflet from the Patent Office to help you fill in this form)

1. Your reference GW-G30249

2. Patent application number
(The Patent Office will fill in this part) 0019318.5

3. Full name, address and postcode of the or of each applicant (*underline all surnames*) Pace Micro Technology Plc

Victoria Road
Saltaire
Shipley
BD18 3LF

Patents ADP number (*if you know it*) 7588569001

If the applicant is a corporate body, give the country/state of its incorporation

U.K

4. Title of the invention Improvements to Electronic Programme Guide

5. Name of your agent (*if you have one*) Bailey Walsh & Co.

"Address for service" in the United Kingdom to which all correspondence should be sent (*including the postcode*)

5, York Place
Leeds
LS1 2SD

Patents ADP number (*if you know it*)

224001 ✓

6. If you are declaring priority from one or more earlier patent applications, give the date of filing of the or of each of these earlier applications and (<i>if you know it</i>) the or each application number	Country	Priority application number (<i>if you know it</i>)	Date of filing (<i>day / month / years</i>)
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7. If this application is divided or otherwise derived from an earlier UK application, the earlier application	Number of earlier application	Date of filing (<i>day / month / years</i>)
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8. Is a statement of inventorship and of right to grant of a patent required in support of this request? (*Answer "Yes" if:*) Yes

- a) any applicant named in part 3 is not an inventor, or
 - b) there is an inventor who is not named as an applicant, or
 - c) any named applicant is a corporate body
- See note (d)

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Continuation sheets of this form

Description 7

Claim(s)

Abstract

Drawing(s) 1 + 1

10. If you are also filing any of the following, state how many of each item.

Priority Documents

Translations of priority documents

Statement of inventorship and right to grant of a patent (Patents Form 7/77)

Request for preliminary examination and search (Patents Form 9/77)

Request for substantive examination (Patents Form 10/77)

Any other documents (Please specify)

11. I/We request the grant of a patent on the basis of this application

Signature

Date

B. Wood

07.08.00

12. Name and daytime telephone number of person to contact in the United Kingdom

G Wood
0113 2433824

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Improvements to Electronic Programme Guide

The invention to which this application relates is a television system which incorporates a broadcast data receiver for streams of data which are broadcast from a broadcast location to a number of broadcast data receivers at various premises throughout an area. The data is broadcast and carried by any of satellite, cable or terrestrial transmission systems and, when received, is processed by the broadcast data receivers to allow generation of video, audio and/or auxiliary data via a display screen and speakers such as those incorporated into a television set.

With the advent of digital data technology in relation to broadcast systems, the number of channels which are available to be viewed and programmes thereon, at any one time, has proliferated. This means that the traditional referral to printed television programme schedules such as those found in newspapers, magazines and the like, are now no longer capable of showing all of the programmes which are available to be selected at any one time or, furthermore, to show any significant information about the programmes.

This problem has lead to the development and adoption of what is known as an electronic programme guide (EPG) which is generated from auxiliary data received by the broadcast data receiver. The electronic programme guide is an on-screen display which can be used to display various options and modes of operation of a broadcast data receiver and, furthermore, programmes which are available to be viewed at a particular time at the same instant or in the future and through which pages of display the user can scroll, typically using a remote control device, to view programmes available and select a particular programme to be watched.

This form of EPG is relatively well-known and it is also possible upon the selection of a particular programme to obtain limited textual information relating to the programme subject matter which can help the user in deciding whether or not to select and watch that particular programme. However, very often this additional information is not of sufficient quantity to allow a user to make a decision.

As the EPG has evolved, it is now also possible to search through available programmes on a subject matter basis so that, typically by the remote control, the user can indicate to the broadcast data receiver their interest in programmes in relation to a particular subject. The broadcast data receiver, via information data which is broadcast along with the video/audio data, can undertake a survey of available programmes to identify those which are identified as relating to the subject matter indicated by the user. If any such programmes are indicated, then these details are shown on screen in the form of textual information which describes each of the programmes found. However, in use, it is found that the information which is provided is not enough for the user to decide whether they want to watch a particular channel or another one.

The aim of the present invention is to provide an improved method and system of allowing a user to ascertain the programme material which is available for viewing at any one time and then allow the user to select, on the basis of the invention, a particular programme which they wish to watch.

In a first aspect of the invention there is provided a television system comprising a broadcast data receiver for the reception of data which is broadcast from a remote location, said data comprising any of video, audio and/or auxiliary data and

generating the video, audio and/or auxiliary data for viewing and/or listening via the speakers and the display screen connected thereto and wherein said auxiliary data can be processed by the broadcast data receiver to generate an electronic programme guide containing information relating to a range of programmes which are available for viewing at that instant or in the future and displaying same on screen and characterised in that in the use of the EPG, there is provided a facility through the broadcast data receiver whereby the user can select to view, for a predetermined period of time, a visual display of each, or a predetermined selection, of the programmes available for a particular time period.

In one embodiment, the period for which each programme can be viewed is a relatively short period of time such as say 5 seconds, and each of the programmes is shown in sequence for said predesignated time.

In one embodiment, the programmes for which the display is generated is each of the programmes which are available for viewing at the instant of the selection of the function.

In a further embodiment of the invention, the programmes which are scanned for viewing are a pre-selected number of programmes which can be selected in relation to any user or broadcast data receiver defined grouping. In a preferred embodiment the selection of the group of programmes is made on the basis of a user entered subject matter instruction so that from the programmes which are available at that time, those programmes which relate to the user defined subject, are identified and then each of the programmes which are identified in that group are displayed for a said predetermined period of time.

The ability to show each of the programmes selected for a relatively short period of time allows the user to immediately identify what it is that they may decide to watch in terms of subject matter and/or quality of the programme material etc and it is found that in practise, the ability to view the video image as an alternative or in addition to textual information is of considerably greater benefit to the user than using the conventional system of simply referring to textual information which is generated on screen.

In use, if the user identifies the particular programme which is being shown and wishes to watch the same then they may select the same at the time of the video display for that programme or may simply wait until all the programmes have been shown in a predetermined period of time and then select the programme for choice. It is envisaged that in addition to the video data, a caption will be generated which identifies the programme which is being shown at a predetermined period of time.

Typically, the selection of the function according to the invention, the selection of subject matter, if desired, and the selection of the particular programme to subsequently be viewed, can all be achieved via a remote control device used in conjunction with a broadcast data receiver.

In one particularly useful embodiment the user can select a number of channels which can be referred to as their preferred or favourite or most used channels and upon selection of the scan function of this invention, the viewer can then view a portion of video for the predetermined time for each of the selected channels. Most users always watch a relatively uniform and constant group of channels. Thus in this embodiment the functionality of the system is the same but used for a different

channel selection criteria to the other embodiments described herein.

A specific embodiment of the invention is now described with reference to the accompanying diagrams wherein:-

Figure 1 illustrates a menu display which can be generated at a first stage of the invention;

Figures 2a to 2c illustrate the video displays which can be generated in accordance with the invention; and

Figure 3 illustrates the programme which is finally selected for viewing by the user in accordance with the invention.

Referring now to Figure 1, there is shown an on-screen display of a menu of subject matter which can be generated by a broadcast data receiver connected to the on-screen display. The broadcast data receiver is provided to receive, process and generate video and audio and to allow the generation of programmes on, for example, a television set. In addition, auxiliary data can be received by the broadcast data receiver which allows other functions to be offered to the user. One of these functions is an electronic programme guide and it is envisaged that the display shown in Figure 1 will be generated as part of the electronic programme guide as follows.

Conventionally, when using a broadcast data receiver, a user is well versed in the use of a remote control device and to generate the display shown in Figure 1, the remote control device will be provided with a particularly identified button which may be entitled, for example, "scan". Upon depressing the button in accordance with the embodiment herein described, the display shown in Figure 1 will be generated. As will be seen, the

display indicates a range of subject matter. The user can then, via a remote control, decide to select one of the subject matter indicated or alternatively may go for the final option which is "all" and simply means that all of the programmes available at that time can be selected. In this embodiment, the user has selected sports as being subject matter of interest. It may also be possible at this time for the user to select a particular period of time for which subsequent video images are to be generated from a particular programme and, if this is provided, then again the user can use the remote control device to select a particular time period.

In any case, upon receiving an indication that the user has selected the subject matter of sports, the broadcast data receiver refers to a series of information flags which are transmitted by the broadcaster for the data for each programme, and these flags serve to indicate to the broadcast data receiver the particular subject matter under which the programme falls. Thus, the broadcast data receiver in this instance scans all of the programmes which are available for viewing at this time to identify any which include the sports information flag. For those programmes which do include this flag, the broadcast data receiver proceeds to generate the video and possibly audio data for the same for sequential display on screen as illustrated in Figures 2a, b and c. In this example, three programmes are identified under the sports heading, namely football as indicated in Figure 2a, horse racing as indicated in Figure 2b, and darts as indicated in Figure 2c. Thus, as shown in these figures, the video and audio for that programme is generated for a predesignated period of time, say 5 seconds, which allows the user to view the on-screen display, identify the sports to which the programme relates, and they can then do this for each of the available programmes for that subject matter at that time, in sequence.

In this example, the user is particularly interested in darts and therefore can choose, via the remote control, to select the darts programme at the time of display as shown in Figure 2c or alternatively, they can wait until the viewing of all the excerpts from the selected programmes is complete and then select the darts programme.

In order to aid the user to identify the programme shown, a caption can be generated as shown in each of Figures 2a, 2b and 2c which identifies the programme and channel. In a further embodiment, the caption can be enlarged to also display textual information relating to the programmes which are being shown for that period of time.

It is therefore found that in use, the ability to view the programme rather than having to refer simply to textual information is of considerable advantage to the user.

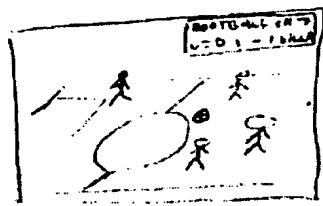
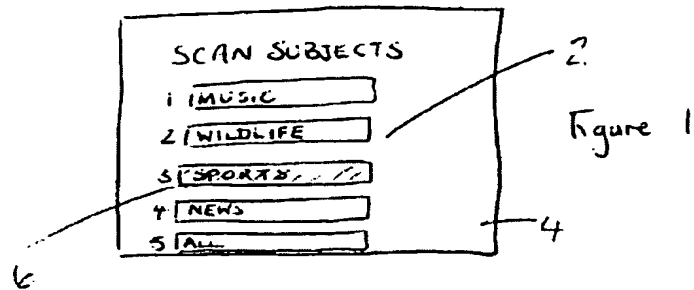


Figure 2a

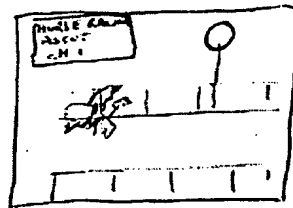


Figure 2b

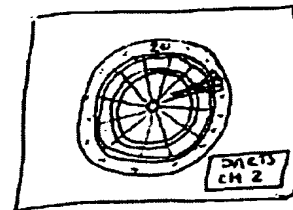


Figure 2c

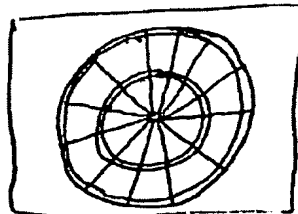


Figure 3